Serial No. 10/628,197
Docket No. ACC048PA

Amendments to the Drawings:

Two enclosed sheets of drawings include changes to Figs. 7 and 8. These sheets, which include Figs. 6 and 8, and Fig. 7, respectively, replace the original sheets including Figs. 6 and 8, and Fig. 7.

Enclosure: Two Replacement Sheets

Serial No. 10/628,197
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REMARKS/ARGUMENTS

The recognition of allowable subject matter in the above-identified application is gratefully acknowledged. More particularly, claims 15-17 stand allowed and claims 2 and 10 are submitted as being in condition for allowance since, as required in the ***Allowable Subject Matter*** section on page 5 of the identified Office action, they have been amended into independent form.

The Specification and Drawings have been amended to correct minor errors noted therein during review of the application for preparation of this amendment. The amendments of claims 2 and 10 include changes to simplify the language that was originally included therein when claims 2 and 10 were dependent on claims 1 and 9, respectively. Direct amendment of claims 2 and 10 to independent form (shown in attached Appendix A) while accurate, proved to be confusing. The Examiner is respectfully requested to contact the undersigned attorney if the amendments of claims 2 and 10 as made in the Listing of the Claims above raise any concerns. The Drawings were amended so that: 1) Fig. 8, the outer set of detectors X, and the outer set of detectors • are complete; and, 2) Fig. 7, the box labeled COMPUTE AREA WT is labeled 106.

The rejection of claims 1, 3-9, 11-14 and 18-20 under 35 U.S.C. §102(e) as being anticipated by Typpo (US 2004/0155196) is respectfully traversed in view of the following remarks.

Claims 1, 2, 9, 10, 18 and 20 have been amended to clarify that the compensation of the characteristic signal in those claims (the characteristic signal can be representative of the basis weight of the web of material) is compensated for variations in the atomic composition of the web of material through which the beta radiation beam passes. Typpo is concerned with measuring a characteristic of a sheet material with compensation for sheet position and alignment, not atomic

composition of the sheet material. More particularly, in Typpo, a nuclear gauge measuring a characteristic of a sheet material can obtain the basis weight of the sheet material in spite of misalignment of the radiation source and the detector, i.e., x and y misalignment of the source and the detector relative to one another (see Fig. 2), and also flutter of the sheet within the gap between the source and the detector, i.e., z misalignment (see Fig. 1). Thus, Typpo's nuclear gauge is compensated for the position of the material sheet for calculation of the basis weight of the material sheet, see paragraphs 10-11. In the later part of Paragraph 0067, it is noted that the "[d]rive mechanism 58 moves carriages 54 and 56 along a substantial length of frame 52 along which there are unavoidable manufacturing variations, which induce some misalignment between radiation source 12 and detector array 16." And that "[t]hese misalignments are compensated for by the present invention as described above."

With regard to rejected independent claims 1, 9, 18 and 20, reference is made to Paragraph 0008[1] of Typpo as showing that Typpo discloses apparatus for measuring a characteristic of a web of material by detecting a beta radiation beam after passage through the beam. While this is correct, Paragraph 0008 notes that "a processor utiliz[es] the at least one signal [produced by the radiation detection array] to determine a **position** of the material sheet [emphasis added]." Applicant's attorney has been unable to find any reference in Typpo to compensation based on atomic composition of a web of material. Accordingly, it is respectfully submitted that claims 1, 9, 18 and 20, and the claims that depend therefrom, claims 3-8, claims 11-14 and claim 19, respectively, are in condition for allowance which is requested.

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[1] [0008] The invention comprises, in one form thereof, a material sheet attribute detection system, the material sheet having a first side and a second side, the system includes a radiation source located proximate to the first side of the material sheet, the radiation source emitting radiation toward the material sheet, a radiation detection array located proximate to the second side of the material sheet, the radiation detection array producing at least one signal based on the radiation detected from the radiation source and **a processor utilizing the at least one signal to determine a position of the material sheet.** [emphasis added]

Claim 13 has also been amended to recite that the first detector of claim 9 is defined by an electrically selectable portion of a plurality of individual detectors and that the second detector of claim 9 is defined by an electrically selectable portion of the plurality of individual detectors which is not disclosed or suggested by Typpo.

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims, claims 1-20, of the present application are in condition for allowance. Accordingly, applicant requests reconsideration of the application and allowance of all claims.

If the present amendment raises any questions or the Examiner believes that an interview would facilitate prosecution of the present application, please contact the undersigned attorney.

Respectfully submitted,
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Appendix A

2. (currently amended): Apparatus for measuring a characteristic of a web of material by detecting a beta radiation beam after passage through said web of material ~~as claimed in claim 1 further~~ comprising:

a first detector generally aligned with a beta radiation beam to be detected and generating a first signal representative of a first portion of said beam received by said first detector;

a second detector at least partially surrounding said first detector and generating a second signal representative of a second portion of said beam received by said second detector;

at least a third detector at least partially surrounding said first detector and said second detector and generating a third signal representative of a third portion of said beam received by said third detector; and

a controller receiving said first and second signals and generating a first characteristic signal from said first signal, a second characteristic signal from said second signal and a third characteristic signal from a combination of said first and second signals, wherein said first and second characteristic signals are used to compensate said third characteristic signal for variations in composition of said web of material through which said beta radiation beam passes, said controller further receivesing said third signal and generating a fourth characteristic signal from said third signal, wherein said first, second and third signals are used to generate said third characteristic signal and said fourth characteristic signal is used to further compensate said third characteristic signal.

10. (currently amended): A method for measuring a characteristic of a web of material by detecting a beta radiation beam after passage through said web of material ~~as claimed in claim 9 further~~ comprising:

generating a first signal representative of a first portion of said beam received by a first detector;

generating a second signal representative of a second portion of said beam received by a second detector;

generating at least a third signal representative of a third portion of said beam received by a third detector;

generating a first characteristic signal from said first signal;

generating a second characteristic signal from said second signal;

generating a third characteristic signal from a combination of said first and second signals;

generating a fourth characteristic signal from said third signal;

said generation of a third characteristic signal from a combination of said first and second signals further comprises generation of said third characteristic signal ~~form~~ from a combination of said first, second and third signals; and

using said first, second and fourth characteristic signals to compensate said third characteristic signal for variations in composition of said web ~~a sheet~~ of material through which said beta radiation beam passes.